

General Physics

## MC SIMULATIONS OF LIGHT SCATTERING IN HETEROGENEOUS MEDIA\*

Allen Lewis, Q. Su\*, R. Grobe\*

Intense Laser Physics Theory Unit

Department of Physics, Illinois State University, Normal, IL 61790-4560

<http://www.phy.ilstu.edu/ILP>

The reflection of a light beam passing through a colloid, which identifies the presence of suspended particles, has been referred to as the Tyndall effect. Using large scale computer calculations, we simulate this effect on a  $512 \times 512$  spatial lattice grid. Each grid point represents a random scatter capable of redistributing the incoming photons to a new direction upon collision. We discuss several problems associated with the numerical algorithm and how we have solved them. Close to the point of entry of the incoming light there is a unique region of low light reflection, call the dark cone. We comment on the variation of such a cone formation with several system parameters. [1]

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[1] A.F. Lewis, M.S. Bell, R.E. Wagner, Q. Su and R. Grobe, **Laser Phys.** 13, pp. 207-212 (2003).